LArSoft minutes, 17-Aug-2011. -- Eric Church

LArSoft minutes appear at https://cdcvs.fnal.gov/redmine/projects/activity/larsoftsvn. (The location presumably at which you found these!) For further details of matters reported here drill down into the wiki, etc, at that redmine site. Everyone is welcome to attend the bi-weekly meetings. We are now out of phase wrt our usual 2 wk schedule. This is the new in-phase. Next meeting will be 31-Aug-2011. It will be in the Racetrack, 7X0.

There are pdfs from Eric, Brian R, Andrzej, Mitch, Herb in the Documents link on redmine.

Eric reports that a new machine available to MicroBooNE LArSofters, uboonegpvm02, now exists. If you had uboonegpvm01 access you have seamless access to the new one. Just ssh in, especially when you see the uboonegpvm01 heavily subscribed. Also, we now have 12 gpcf (local condor cluster) nodes available that allow 4 GBytes rather than the customary 2 GB. Andrzej already reports success, where once his jobs all fell over. See the repository setup/batch/condor_lBdetMC.sh or Eric's pdf in Documents for necessary flags.

Brian reports big new MC changes. The old objects sim::LArVoxelData,Electrons,Particles have been ditched. BackTracking still works. EM showers are still fully generated but the truth list no longer contains any daughters of brem, photoprodn, annihiln, ionization. See Brian's talk for details. Brian sees a peak memory usage of 4 GB drop to 2.2 GB with all these changes. So, a big step forward. Any old files must be recreated as of today in the dev release, and/or users must use the frozen 12-Aug frozen release to manipulate old files.

Mitch discussed the Event Display's need to rebin TBox displays with each new user-chosen zoom-in. Mitch points out that to show each of the 4.2 msec and 8200 uBooNE channels requires ~23e6 pixels, more than are on most of our screens. Root knows this and rebins accordingly, in addition to doing so at zoom-ins. This is part of the slowness of the EVD. Mitch has no answers, just raises the important issue. What for example can we do in a control room to run the EVD on data, so that we can keep up? This will require some work.

Andrzej shows that is Induction and Collection planes have swapped signal types, and also that the signal arrives at the 1st Induction plane last and at Colln plane first. (Ed.: we think post-meeting this last problem is solved, per Herb's minus sign below. First problem persists.)

Herb discussed improvements to SpacePointServices.* wrt grabbing parameters that had once been hand-tuned and input by the user, and also changes conforming w LArSoft coding conventions. He also shows that the Argo Induction offset is non-zero and the uBooNE Colln wires have a weirdo 3 peak shape. This is consistent with Andrzej's observation above. Herb noted that the FFT convolution/deconvolution seems to be done with inconsistent files, he thinks, in uBooNE. Regrettably, Brian Page was not present to discuss this. Someone else may need to dive in and understand all the DetSim/CalData code. Herb noted that sometimes the plane pitch comes back negative. This is now fixed, as of just after the meeting. Wires in the corners of the detector seem to not be in the plane of the rest of that view's wires. This is a serious problem. Mitch and Adam will address it in the geometries. Track3Dreco has hard-wired drift velocity inter-plane values. Eric pointed out that this is one reason to go to something else like Track3DKalmanSPS.cxx, to make a detector-independent tracking algorithm.

See ya at the next LArSoft mtg in the Racetrack, 7th floor on 8/24, Wed, 9am CDT. We will get a report from, among others, Brian Page, with a high level presentation of the computations that goes on in DetSim+CalData and maybe also HitFinder. At long last, a demystification of the various (de)convolutions that we constantly speak of in this group.

Details for the next meeting:

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